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Ans

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| 09/436,620 | 11/09/1999 | BRUCE E. JOHNSON | SVX-P001 | 6904 |
| 21833 | 7590 | 05/12/2004 | EXAMINER | |
| BOULDER PATENT SERVICE INC 1021 GAPTER ROAD BOULDER, CO 803032924 | | | LEVITAN, DMITRY | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/436,620

Applicant(s)

JOHNSON ET AL.

Examiner

Dmitry Levitan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-126 is/are pending in the application.
- 4a) Of the above claim(s) 51-126 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 18-27 and 33-49 is/are rejected.
- 7) ☒ Claim(s) 12-17, 28-32 and 50 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

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Amendment, filed 04/12/04, has been entered. Claims 1-126 remain pending.

Election/Restrictions

1. This application contains claims 51-126 drawn to an invention nonelected with traverse in Paper No. 8, filed 12/05/03. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Drawings

2. In light of Applicant's amendment, the drawings objections are withdrawn.

Specification

3. In light of Applicant's amendment, the specification objections are withdrawn.

Claim Objections

4. Claim 22 is objected to because of the following informalities: claim limitations "station being physically receivable in one of the ports" and "receiving a station in a port" are confusing. Examiner suggests: stations coupled or connected to a port. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. In light of Applicant's amendment, the claims 27, 42-45 rejection under 35 U.S.C. 112, first paragraph, is withdrawn.

6. Claims 1-50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 46, it is unclear what "operating status of the system" means.

7. In light of Applicant's amendment, the claims 2, 7, 10, 22, 40, 41 rejection under 35 U.S.C. 112, second paragraph, is withdrawn.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 18, 19-21, 26, 27, 33-37, 40-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dawson (US 5,390,188).

Regarding claims 1 and 46, Dawson substantially teaches all the limitations of claims 1 and 46:

A hub (two connected concentrators 910 and 920 on Fig. 11 and 25:1-5) configured for interconnecting stations (stations 950, 955, 960, 965 and 970 on Fig. 11 and 25:13-27) as a part of a digital system where digital data flows between the stations (packets 25:16-18) based on operational status of the system (1:56-66), the improvement comprising:

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An arrangement forming a part of the hub (NMS of the network shown on Fig. 4 and 10:60-67 and 11:1-67, as part of the hub 25:33-37) and connectable at points within the hub (connected to port logic units 921, 924, 922 or 932 and 930 on Fig. 11 in one of the stations 910 or 920, where NMS is located, as shown on Fig. 2 and 8:29-31) and between at least two different pairs of the stations (stations 950, 955, 960, 965 and 970 on Fig. 11, 24:65-67 and 25:1-6) for monitoring certain characteristics of said data (generic loss metric values on Table 2) in a way which provides for non-invasive identification (monitoring messages entering and exiting each port 3:30-41) of one or more conditions (port or station or link functioning 1:56-66), related to the operational status of the system.

Dawson does not teach an arrangement as selectively connectable at the points within the hub. Official notice is taken that an arrangement as selectively connectable at the points within the hub, or making the test device movable, is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make an arrangement as selectively connectable at the points within the hub in the system of Dawson to provide more flexibility for network testing, because some stations can be inconveniently located for the NMS operator.

Regarding claim 18, Dawson teaches data flows between the stations (Table 2) using a loop, which interconnects stations (Fig. 11) so as to define the points and the condition is a defect (fault 25:27-40) within the system and the arrangement (procedures 1-4 26:1-37) is to configured for monitoring certain characteristics of the data (generic loss metric) at the points to provide non-invasive location of the defect.

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Regarding claim 19, Dawson teaches monitoring said point in sequential time (Fig. 7 and 14:17-57) such that only one of the points is monitored at a time (inherently part of the system, because Dawson teaches monitoring each port logic 14:17-23).

Regarding claim 20, Dawson teaches monitoring said point in a predetermined interval (14:17-39).

Regarding claim 21, Dawson teaches monitoring two or more points at a time (Table 2).

Regarding claim 26, Dawson teaches analysis means (NMS on Fig. 4 and 11:27-67, 12:1-10) for analyzing the digital data obtained at said points (Table 2) in order to establish the certain characteristics.

Regarding claims 33-35, Dawson teaches beaconing means (NMS 28:50-62) to identify a defect location on the hub adjacent to the defective station connection port (Table 2) and the beacon indication is provided at a position remote from the hub (NMS 5 on Fig. 2 and 8:30-32).

Regarding claims 36 and 37, Dawson teaches each data frame including a CRC and checking CRC of data frames to identify the corrupted frames (12:11-25) origination (source address loss metric 16:21-34).

Regarding claims 40 and 41, Dawson teaches the hub as a Fibre Channel hub (FDDI 6:47-62) to analyze digital data violating a predefined transition density (15:24-55) and identifies the violations of the transition density by the digital data (16:9-15).

Regarding claims 27, 42 and 43, Dawson teaches using of Fibre Channel characters (FDDI standard 9:21-45), their invalidation (use of CRC 12:11-25) and isolating the invalid characters to origination at certain points (source address loss metric 16:21-34).

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9. Regarding claims 44 and 45, Dawson substantially teaches all the limitations of claims 1, 42, 43, 44 and 45.

Dawson does not teach connecting stations in a lobe to the same port and validating the connection between the hub and the lobe.

Official notice is taken that connecting stations in a lobe to the same port and validating the connection between the hub and the lobe is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add connecting stations in a lobe to the same port and validating the connection between the hub and the lobe to the system of Dawson to improve the system operation with several stations connected in a lobe.

10. Claims 2-11, 22-25, are rejected under 35 U.S.C. 103(a) as being unpatentable over Dawson in view of Brewer (US 6,188,668).

Dawson substantially teaches all the limitations of claims 1-3, 5-9, 22-25.

Regarding claims 2, 3, 7-9, Dawson does not teach using ordered set detection including LIP, LIP7, LIP8, idle character, SOF, ARB and OPN.

Brewer teaches using ordered set detection (2:20-40) including LIP (2:24), LIP7 (2:26), LIP8 (2:26-35), idle character SOF, ARB and OPN (all part of ANSI X3.230 standard 1:22-37) to isolate a fault (1:4-9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using ordered set detection including idle character, LIP, LIP7, LIP8, SOF, ARB and OPN of Brewer to the system of Dawson to improve the system compatibility with ANSI X3.230 standard.

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Regarding claims 4, 10 and 11, Dawson does not teach using predetermined sequence/counting specified ordered sets to indicate on hub an operational status of the loop. Brewer teaches using predetermined sequence/counting specified ordered sets (three consecutive LIP F8 ordered sets 5:30-55) to indicate on hub (3:49-64) an operational status of the loop (port failure 5:43-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using predetermined sequence/counting specified ordered sets to indicate on hub an operational status of the loop of Brewer to the system of Dawson to improve the system reliability.

Regarding claims 5 and 6, Dawson does not teach using detection LIP F8 transmitting stations and bypassing any station transmitting LIP F8. Brewer teaches using detection LIP F8 transmitting stations (2:20-40) and bypassing any station transmitting LIP F8 (5:30-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using detection LIP F8 transmitting stations and bypassing any station transmitting LIP F8 of Brewer to the system of Dawson to improve the system station bypassing capabilities.

Regarding claims 22 and 25, Dawson does not teach using stations selectively and individually bypassable to prevent insertion of a defective station. Brewer teaches using stations selectively and individually bypassable (4:52-64) to prevent insertion of a defective station (3:49-64).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using stations selectively and individually bypassable to prevent insertion of a defective station of Brewer to the system of Dawson to improve the system reliability.

Regarding claim 23, Dawson does not teach bypassed stations to transmit data while bypassed.

Brewer teaches bypassed stations to transmit data while bypassed (5:30-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add bypassed stations to transmit data while bypassed of Brewer to the system of Dawson to improve the system reliability.

11. Claims 38 and 47-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dawson in view of Lin (US 6,081,847).

Dawson substantially teaches all the limitations of claims 38, 46 and 47 including detection of stations 32:56-67 and 33:1-10.

Dawson does not teach identifying stations by ALPA and establishing a preliminary system map by monitoring the ALPA present at the points using ARB and OPN commands.

Lin teaches identifying stations by ALPA (ALPA 3:13-27) and establishing a preliminary system map by monitoring the ALPA present at the points (initialization process 2:1-21) using ARB (1:53-58) and OPN (2:36-44) commands.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add identifying stations by ALPA and establishing a preliminary system map by monitoring

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the ALPA present at the points using ARB and OPN commands of Lin to the system of Dawson to improve the system station identification and mapping.

12. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dawson and Brewer.

Dawson and Brewer substantially teach all the limitations of claims 1, 22, 23 and 24 including transmitting LIP sequence other than LIP F8.

Dawson and Brewer do not teach transmitting LIP F7 as test data.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add transmitting LIP F7 as test data to the system of Dawson and Brewer as a design choice, because other LIP sequences except LIP F8 will work in the system as well.

13. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dawson and Lin. Dawson and Lin substantially teach all the limitations of claims 1, 36, 38 and 39 including using ALPA to identify defective stations.

Dawson and Lin do not teach connecting stations in a lobe to the same port and using ALPA to identify a defective station.

Official notice is taken that connecting stations in a lobe to the same port is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add connecting stations in a lobe to the same port and using ALPA to identify a defective station to the system of Dawson and Lin to improve the system operation with several stations connected in a lobe.

Allowable Subject Matter

14. Claims 12-17, 28-32 and 50 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

15. Applicant's arguments filed 04/12/04 have been fully considered but they are not persuasive.

Applicant's arguments with respect to "selectively connectable" limitation of claims 1 and 46 have been considered but are moot in view of the new ground(s) of rejection.

On pages 37 and 38 of the Response, Applicant argues that Dawson does not teach non-invasive identification of the system conditions.

Examiner respectfully disagrees.

Dawson teaches non-invasive identification of the system conditions as monitoring messages entering and exiting a port (3:30-33). Applicant's arguments regarding the advantages of a diagnostic loop are irrelevant as the diagnostic loop was not directly claimed.

Examiner therefore believes that the cited references meet all the claims limitations and the rejection is proper.

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Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is 703-305-4384. The examiner can normally be reached on 8:30 to 4:30.

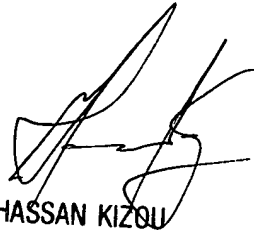
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dmitry Levitan
Patent Examiner
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